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Cette recherche avait pour but d'évaluer l'habileté de communication en français et le rendement scolaire d'élèves non francophones qui suivaient un programme d'accueil/post-accueil spécial au secondaire. Trois groupes d'élèves ont participé à cette étude : l'un en classes d'accueil, l'un en classes de post-accueil et un autre en classes d'intégration. Divers tests de français ainsi qu'un test de mathématiques ont donné les résultats suivants : le progrès en français est plus prononcé entre les classes d'accueil et les classes de post-accueil qu'entre ces dernières et les classes d'intégration; la compétence en mathématiques des deux derniers groupes est comparable à celle des élèves francophones, mais leur habileté de communication en français est nettement inférieure.

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INTEGRATION INTO THE FRENCH SECTOR AT THE HIGH SCHOOL LEVEL: AN EVALUATION OF THE ACCUEIL PROGRAM AND SECONDARY II FOLLOW-UP CLASSES

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Résumé

Le but de cette recherche était d'évaluer les habilités langagières en français et le rendement académique d'élèves non-francophones qui suivaient un programme d'accueil/post-accueil spécial au niveau secondaire. Trois groupes d'élèves non-francophones ont participé à cette étude: un groupe d'élèves en classes d'accueil (groupe ACC), un groupe d'élèves en classes de post-accueil (groupe PAC), et un groupe d'élèves en classes d'intégration (groupe INT). Les élèves ACC n'étaient pas groupés selon leur niveau scolaire. Les élèves PAC et INT étaient en secondaire II. Un groupe d'élèves francophones (groupe FR) a été inclus pour but de comparaison.

Les habilités langagières ont été évaluées à l'aide d'une série de tests de français oraux et écrits. Le rendement académique a été évalué à l'aide d'un test de rendement en mathématiques.

Les résultats indiquent que: (1) les trois groupes non-francophones ont obtenu des résultats nettement inférieurs à ceux du groupe FR aux tests de français. (2) Le groupe ACC a obtenu des résultats nettement inférieurs à ceux des groupes PAC et INT à ces mêmes tests. (3) Le groupe PAC, a obtenu des résultats nettement inférieurs à ceux du groupe INT au test de compréhension auditive, au sous-test II du test de lecture et à une des mesures d'évaluation de la composition. Il n'y avait pas d'autres différences significatives entre le groupe PAC et le groupe INT aux tests de français. (4) Au test de rendement en mathématiques, le groupe PAC a obtenu des résultats nettement supérieurs à ceux du groupe INT; cependant,

suivant les normes de la C.E.C.M., les résultats des deux groupes se situent dans la moyenne par rapport au niveau de leur classe.

Les résultats nous mènent à conclure que: (1) l'augmentation des connaissances du français est plus prononcée entre les classes d'accueil et de post-accueil qu'entre ces dernières et les classes d'intégration. (2) Le rendement académique des élèves en classes de post-accueil et d'intégration est comparable à celui d'élèves francophones du même niveau scolaire; toutefois leur niveau de compétence en français est encore nettement inférieur à celui d'un locuteur natif.

Summary

The purpose of this study was to assess the French language proficiency and academic achievement of non-francophone students enrolled in a special accueil/post-accueil program at the high school level. Three groups of non-francophone students participated in the study: a group of students in accueil classes (ACC group), a group of students in post-accueil classes (PAC group) and a group of students in integrated classes (INT group). The ACC students were not grouped according to grade level. The PAC and INT students were in Secondary II. A group of francophone students (FR group) was included for comparison purposes.

French language proficiency was assessed by a battery of oral and written French language tests. Academic achievement was measured by a battery of mathematic tests.

The results indicate that: (1) the three non-francophone groups scored significantly lower than the FR group on the French language tests. (2) The ACC group scored significantly lower than the PAC and INT groups on these same tests. (3) The PAC group scored significantly lower than the INT group on the listening comprehension test, on subtest II of the reading comprehension test and on one measure of evaluation of the written composition. There were no other significant differences between these two groups on the French language tests. (4) The PAC group scored significantly higher than the INT group on the mathematics test, but both groups performed at grade level according to test norms of the C.E.C.M.

The findings of this study lead to two major conclusions: (1) gains in French language proficiency are much more pronounced between the accueil and the post-accueil classes than between the latter and the integrated classes. (2) The academic achievement of students in post-accueil and integrated classes is comparable to that of francophone students at the same grade level; however, their proficiency in French remains well below that of their native French peers.

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Non-francophone students who enter schools in the French sector of the P.S.B.G.M. at the upper elementary grades or in high school must acquire as rapidly as possible an extensive knowledge of French in order to follow the regular high school curriculum in this sector. To facilitate the students' integration into the classroom, a special three-year program consisting of accueil, post-accueil and integrated classes with special French language instruction has been developed by the P.S.B.G.M.. This program differs from the usual accueil/post-accueil program in that the students are not inserted into the regular classroom immediately after having completed the accueil program (for a more detailed description of the three-year program, see below).

The accueil program itself is an intensive French second language program which is specially designed for immigrant students and students who under Bill 101 must attend a regular French school. The program was initiated at the P.S.B.G.M. in 1976 and a number of research studies have been conducted to evaluate its efficacy. Most of these studies have been carried out at the kindergarten level where the accueil classes are heavily populated (Adiv Notes 1,2 and 3). A longitudinal follow-up study has also been undertaken in order to assess the linguistic proficiency and academic achievement of non-francophone students once they are inserted in the regular classroom (Adiv, Notes 4 and 5; Adiv and Doré Note 6). These studies reveal that the non-francophone students rapidly acquire a functional knowledge of French, but that their level of proficiency remains significatly lower than that of their

francophone peers at least during their first three years in the regular classroom. Further research is presently being carried out at the grade 4 level (Adiv and Doré, Note 7).

In contrast, French language proficiency and scholastic achievement of the non-francophone high school students in the French sector of the P.S.B.G.M.have not been assessed to date. Findings from research in second language acquisition suggest that older learners learn a second language more rapidly than younger learners (Asher and Price, 1967; Burstall, 1974; Fathman 1975; Snow and Hofnagel-Höhle, 1978). It has been argued that the adolescent's more mature cognitive system may be able to take greater advantage of formal language instruction (Felix, 1980). The special three-year accueil/post-accueil intergrated program that is being evaluated here should provide further insights into the characteristics of second language development in young adolescents.

The purpose of the present study is two-fold:

(1) To assess the French language proficiency of high school students in accueil classes.

(2) To assess French language proficiency and academic achievement of Secondary II students in post-accueil and integrated classes.

Program

The program evaluated in this study is a three-year program. During the first year (accueil classes), all the courses are devoted to French

language instruction. The objective of this intensive French language bath is the development of the functional use of the language in the four skills (auditory comprehension, oral production, reading and writing). In the beginning, texts and supplementary materials specially designed for teaching French as a second language are used. Later on, there is a gradual introduction of French mother tongue materials. The basic textbook is Le Français International (Rondeau and Vinay, 1974) and La Méthode Orange (Reboullet, Maladain et Verdol, 1978, Canadian version, Duplante, 1980). Since the purpose of the accueil classes is the study of language and not the study of content subjects, students are not grouped according to specific grade levels and their age range within a given class can vary considerably.

During the second year (post-accueil program), the students still study in completely separate classes. However, here they follow the regular curriculum at a given grade level. In addition, they receive two extra periods of French every day (techniques d'oral et d'écrit). The basic French texts used are Vers la Maîtrise du Français, Vol. II (Ray et al., 1981) and le Temps d'une Rencontre (Pouliot et al., 1978). In addition, the students read a variety of materials of current interest such as newspaper articles. The fact that the students study in separate classes allows the teacher to adapt some of the course materials to the specific needs of these students. Thus, the students can advance at their own speed in these post-accueil classes.

Once the students have completed their second year of studies, they

are inserted into the regular classroom at the appropriate grade level (integrated classes). However, here too, they still receive some additional French language instruction (one daily period, the basic text being Vers la Maîtrise du Français, Vol. III).

In the post-accueil and integrated classes, the students are basically placed at the grade level at which they should be according to their chronological age. However, because older students may not have had the opportunity to take certain compulsory content courses which are given in Secondary I and II, the age range in these classes, particularly at the post-accueil level, is also very broad.

Method

Subjects

Five groups of students participated in this study: a group of students in accueil classes (hereafter ACC group), a group of students in post-accueil classes (hereafter PAC group), a group of students in integrated classes (hereafter INT group) and two groups of francophone students (hereafter FR_1 and FR_2 groups). See Table 1A for sample sizes of the different groups.

The ACC group consisted of students from three different classes. These classes were not organized according to grade level and the age of the students ranged from 12 to 18 years.

The students in the PAC and INT groups also came from three

different classes (two post-accueil classes and one integrated class). All of these classes followed the Secondary II curriculum. Nevertheless, here too, the age range of the studends varied from 13-18. It should be noted that these three classes comprised the entire Secondary II population in post-accueil and integrated classes in the specific school whose program was being evaluated.

Most of the PAC students had been in an accueil class the preceding year. In contrast, only about half of the INT students had been in a post-accueil class the previous year. The others had either passed directly from an accueil class in Secondary I into the integrated class or had been in an accueil class at some stage of their elementary schooling and had now been placed into this grade because their French was still too weak for their grade level.

The students in the three groups (ACC, PAC and INT) came from a variety of countries and spoke many different mother tongues. Since the linguistic background of the students could influence the development of French language skills especially during the early stages (eg. students with mother tongues which have an alphabet that is completely different from the Latin one may experience greater difficulty in learning to read French than students who speak languages of Germanic or Latin origin), it was decided to classify the students in the ACC and PAC groups according to three major language groups: (1) those who spoke a European language (hereafter EU group). This group included all English and Spanish speaking students even if they came from non-European countries; (2) those who spoke a Semitic language (hereafter SE group) and (3) those who spoke one

of the Far Eastern languages (hereafter FEA group). See Table 4 for exact sample sizes.

The FR_1 and FR_2 group constituted control groups. The students in these groups came from two schools belonging to two different school commissions. The FR_1 group consisted of two Secondary I classes and the FR_2 group consisted of two Secondary II classes. The students in these two groups were native French speakers and their ages ranged from 12-15 years.

All the students in the sample came from middle to lower-middle socio-economic class homes. In order to control as much as possible the effect of differences in mental capacities that could exist among the groups, the students were administered the Standard Progressive Matrices Test (revised order, Raven 1956).

Tests

The following French language tests were administered to all the groups; (i) a listening comprehension test (test de compréhension auditive), (ii) a reading comprehension test (test de lecture) and (iii) an oral production test (test d'expression orale).

The PAC, INT and FR_2 groups were also administered a French composition test (test de production écrite). Moreover, the PAC and INT groups were given two standardized tests, one in French (test de rendement en français) and one in mathematics (test de rendement en mathématiques). Each test is briefly described below.

(i) The French Tests

(i) Test de compréhension auditive

This test consists of two parts containing a total of eight passages (four dialogues and four radio-announcements pertaining to news items, sports and a weather report). Each passage is followed by one to three questions with multiple-choice answers (22 questions in all). Part I of the test was taken from a listening comprehension test used in the International Educational Achievement Study (IEA, population II, see Carroll, 1975). Part II was taken from a listening comprehension test developed by the Ontario Institute for Studies in Education (level A, revised edition, 1978). This part of the test was linguistically more difficult than Part I. The entire test was tape-recorded. The passages and the questions were presented only orally. The multiple-choice answers were presented both orally and in written form.

(ii) Test de lecture

This test consists of three parts and contains a total of nine reading texts. The texts comprise a comic strip, five newspaper bulletins and two short stories. Each text is followed by one to three questions with multiple-choice answers (24 questions in all). Part I of the test (the comic strip) was taken from a French second language test prepared by the ministère de l'Education. Parts II and III of the test were taken from two reading tests developed by the Ontario Institute of Studies in Education (tests de compréhension de l'écrit niveaux 6 et 7, revised edition 1978). Here again Part I was linguistically simpler than Part II and Part III.

(iii) Test d'expression orale

This test was developed by the Research Department of the P.S.B.G.M.. It consists of two parts. The first part is a picture-narrating task. This part of the test comprises two sets of pictures. Each set contains several pictures which form a story. The students were asked to narrate the stories. No additional questions were asked, however, if a student skipped over several pictures, his or her attention was drawn to these pictures. The second part consists of an interview. Here the students were asked to discuss their feelings about high school. The students were also engaged in a discussion about television shows and television viewing habits in the home.

To assess the students' proficiency in oral production, each speech sample was evaluated by two native-French speaking judges who worked independently. Four aspects of language proficiency were assessed: pronunciation, grammar, vocabulary and communication. Communicative ability on the interview task was assessed independently from communicative ability on the two picture-based tasks. Each variable was assessed on a rating scale ranging from a maximum of 5 to a minimum of 1. The ratings of the two judges were combined to form an average score for each variable.

(iv) Test de production écrite

The students were given a choice of five composition topics and were asked to write a composition on one of them. The length of the composition was not specified. To assess the students' writing skills, each composition was evaluated globally by two francophone judges who worked independently.

The compositions were rated on five dimensions: content, grammar, vocabulary, spelling and punctuation. The ratings ranged from a maximum of 5 to a minimum of 1. The ratings of the two judges were combined to form an average score for each variable.

(v) Test de rendement en français

This test was developed and standardized by the Catholic School Commission of Montreal (C.E.C.M.) for use in its schools. A different form is used at each grade level (grade 1-grade 9). The form administered in the present study was the test de rendement en français Sec. II. It consists of 15 sub-tests and assesses various language arts skills in the areas of vocabulary, grammar and text interpretation. The test contains a total of 40 stimulus items with multiple-choice responses.

(2) The Mathematics Test

This test was also developed and standardized by the Catholic School Commission of Montreal and again a different form is used at each grade level (grade 1 - grade 9). The form administered here was the test de rendement en mathématiques Sec. II. It consists of 35 items. All the items are multiple-choice items. For the analysis of the results the items were regrouped according to two major categories. The criteria for the grouping was whether or not the students had to read a French text in order to solve the mathematical problems or equations. There were 26 items which required some knowledge of the language and only 9 items which did not depend on French comprehension.

Procedure for administering the tests

All the tests, except the oral production test, were group admin-

istered to intact Sec. I and Sec. II classes. The INT students were tested during their special French classes where they are not mixed with francophone students. The test results of non-francophone students attending the same classes as the control groups (FR_1 and FR_2) were excluded from the analysis of the data.

The oral production test was administered individually to a sub-sample of the students (for exact sample sizes see Table 1B). Each testing session lasted 8-10 minutes and the entire session was tape-recorded.

All the tests were administered by native French speaking testers from the Research Department. The testing was done during the month of May 1984.

Results

The results of the FR_1 and FR_2 groups were analyzed first. A one-way analysis of variance procedure revealed no significant differences between the groups on the scores of the Standard Progressive Matrices Test. Similarly, there were no significant differences between these groups on any of the French language tests that were administered to both groups (test de compréhension auditive, test de lecture and test de production orale). In consequence, it was decided to collapse the test results of the FR_1 and FR_2 groups in all subsequent analyses and to refer to this group as a whole as the FR group.

Next, the test scores obtained by the four major groups (ACC, PAC, INT and FR) on the Standard Progressive Matrices Test were compared using

the same one way analysis of variance procedure. The results of this analysis revealed significant differences among the groups ($F=4.42$; $df = 3,202$; $p < .01$). Since these differences could influence the results of the other tests, the latter were analyzed using an analysis of covariance procedure (see Appendix 1 for a short explanation). Separate analyses were carried out for each test and subtest. In addition, wherever significant differences were noted, a Newman-Keuls procedure of multiple comparisons was used to determine which groups differed significiantly from one another. All the test scores and the results of the statistical analyses are summarized in Tables 2 and 3.

Finally, the test scores of the ACC and PAC groups were analyzed according to major mother-tongue groups (EU, SE and FEA) using the same statistical procedures as above. The results of these analyses are summarized in Tables 5,6 and 7.

The scores shown in each table represent mean scores adjusted for group differences on the Standard Progressive Matrices Test except in Tables 6 and 7 which contain the results of the "by mother-tongue" analysis for the PAC group.(The adjustments were not needed here because the differences between the groups on the Standard Progressive Matrices Test were not significant). To simplify data presentation, two formats have been used to represent between-group comparisons. When there are fewer significant differences than insignificant differences, the significant ones are pointed out by means of a solid line in the tables; when there are fewer insignificant differences, the latter are poin'ed out by means of a broken line (in this case, means not joined by a line differ significantly from one another.)

All the test results will be discussed below. The results pertaining to the comparison between the major groups (ACC, PAC, INT and FR) will be presented first, followed by the comparisons within the ACC and PAC groups.

Comparison of Programs

(1) The French Test Results

(i) Test de compréhension auditive

The results of the test de compréhension auditive indicate that all the groups differed significantly from one another on the total score and on subtest II. In descending order, the groups and their total scores rank as follows: (1) FR group, $\bar{X} = 18.85$; (2) INT group, $\bar{X} = 15.82$; (3) PAC group, $\bar{X} = 11.26$; (4) ACC group, $\bar{X} = 8.53$.

On subtest I, which was less difficult than subtest II, there was no significant difference between the INT group ($\bar{X} = 6.78$) and the FR group ($\bar{X} = 7.27$). The other two groups scored significantly lower than the INT and FR groups. Moreover, the difference between the ACC group ($\bar{X} = 3.95$) and the PAC group ($\bar{X} = 5.33$) also remained significant.

(ii) Test de lecture

On the total score of the test de lecture, the ACC group ($\bar{X} = 9.58$) scored significantly lower than all the other groups. The scores of the PAC group ($\bar{X} = 15.30$) and the INT group ($\bar{X} = 16.71$) did not differ significantly from one another. However both groups scored significantly lower than the FR group ($\bar{X} = 19.95$).

On subtest I, which was the easiest of the three subtests, the ACC group ($\bar{X} = 3.09$) scored again significantly lower than the all the other groups and the PAC group ($\bar{X} = 4.55$) scored significantly lower than the

FR group ($\bar{X}$ = 5.10). There were no other significant differences among the groups.

On subtest II, the scores of all the groups differed significantly from one another. In descending order, the groups and their scores rank as follows: (1) FR group, $\bar{X}$ = 9.81; (2) INT group, $\bar{X}$ = 8.05; (3) PAC group, $\bar{X}$ = 6.82; (4) ACC group, $\bar{X}$ = 4.57.

The distribution of the scores on subtest III was similar to the one noted for the total test scores, i.e., significant differences among all the groups except between the PAC group ($\bar{X}$ = 3.89) and the INT group ($\bar{X}$ = 3.88).

(iii) Test d'expression orale

As noted above, the test d'expression orale was evaluated on four different dimensions (pronunciation, grammar, vocabulary and communication). On all of these variables, the ACC, PAC and INT groups were rated significantly lower than the FR group. Within the three non-francophone groups, the ACC group was rated significantly lower than the PAC and INT groups and there was no significant difference between the latter two groups. Moreover, there was practically no difference between the ratings on communication I (story narrating task) and communication II (oral inverview) within a given group. For the numerical values of all the ratings, see Table 2.

(iv) Test de production écrite

Since this test was administered only to Secondary II students, the results pertain only to the PAC, INT and part of the FR group (FR_2). The results show that the PAC and INT groups were rated significantly lower than the FC group on four of the five measures of evaluation (content,

vocabulary, grammar and spelling). Between the PAC and INT groups, there were no significant differences in the ratings for vocabulary, grammar and spelling. However on content, the PAC group was rated significantly lower than the INT group. On punctuation, there were no significant differences among the three groups. For the numerical values of all the ratings, see Table 2.

(v) Test de rendement en français

This test was administered to the PAC and INT groups. The results reveal no significant differences between the two groups (PAC, $\bar{X} = 15.95$; INT, $\bar{X} = 18.58$). In terms of stanine equivalents both groups received a score of 3 (see Appendix II for a brief explanation of stanine scores). Thus, according to the test norms for the French population of the C.E.C.M. both groups performed one step below average.

(2) The Mathematics Test

This test was also administered only to the PAC and INT groups. Here the results show significant differences between the two groups on the total score (PAC, $\bar{X} = 19.85$; INT, $\bar{X} = 16.42$) and on subtest I (PAC, $\bar{X} = 5.26$; INT, $\bar{X} = 3.87$). On subtest II the PAC group ($\bar{X} = 14.58$) still scored numerically higher than the INT group ($\bar{X} = 12.55$). However, the difference was statistically not significant. In terms of stanine equivalents the PAC group received a score of 5 and the INT group a score of 4. In spite of this difference, both groups performed within the average range of the French population of the C.E.C.M.

Comparison of Different Mother Tongue Groups

It will be recalled that the test scores of the ACC and PAC groups were reanalyzed according to three mother tongue subgroups: European languages (EU group), Semitic languages (SE groups) and Far Eastern languages (FEA group). Separate analyses were carried out for the ACC group and the PAC group. The results for the ACC group will be presented first, followed by those of the PAC group.

Comparison within the ACC Group

As in the case of the between-program comparisons, the scores obtained on the Standard Progressive Matrices Test were analyzed first. The results of this analysis revealed no significant differences among the three groups (EU, SE and FEA). Therefore, a simple analysis of variance procedure was used for the analysis of the French test scores.

Since several of the French language tests as well as the mathematics test were not administered to the ACC group, the comparisons pertain only to the test de compréhension auditive, the test de lecture and the test d'expression orale. No significant differences were noted among the EU, SE and FEA groups on any of these tests (see Table 5 for the scores of each group).

Comparison within the PAC group

Once again, the scores of the Standard Progressive Matrices Test were analyzed first. Here the differences among the EU, SE and FEA groups were significant ($F = 4.08$; $df = 2.45$; $p < .05$). Consequently, an analysis of covariance was used for all subsequent analyses.

(1) The French Test Results

There were no significant differences among the three subgroups (EU, SE, FEA) on any of the French language tests except in the case of

the test d'expression orale where the FEA group was rated significantly lower than the EU and SE groups on all the variables (pronunciation, grammar, vocabulary and communication). For the numerical values of the ratings, see Table 6.

(2) The Mathematics Test Results

On the total score of the test de rendement en mathématiques and on subtest II of this test, the FEA group (total score, $\bar{X} = 22.22$; subtest II, $\bar{X} = 16.00$) scored significantly higher than the SE group (total score, $\bar{X} = 15.00$; subtect II, $\bar{X} = 11.62$). On subtest I, all three groups differed significantly from one another. The FEA group ($\bar{X} = 6.22$) obtained the highest score and the SE group ($\bar{X} = 3.31$) obtained the lowest score.

Summary and Discussion

The findings of this study can be summarized as follows:

(1) The ACC group scored significantly lower than the other groups on all the tests administered to this group.

(2) The PAC group scored significantly lower than the FR group on all the French language tests.

(3) The PAC group scored significantly lower than the INT group on the test de compréhension auditive, on subtest II of the test de lecture and on the content component of the test de production écrite. There were no other significant differences between the PAC and INT groups on the French language tests. On the mathematics test the PAC group scored significantly higher than the INT group except in the case of subtest II.

(4) The INT group scored significantly lower than the FR group on all the French language tests, except on subtest I of the test de compréhension auditive and subtest I of the test de lecture.

(5) Within the ACC group, there was no significant difference between the three different mother tongue groupings (EU, SE, FEA).

(6) Within the PAC group, the FEA group was rated significantly lower than the EU and SE groups on all the measures of evaluation of the test d'expression orale. However, on the mathematics test, the FEA group scored significantly higher than the SE group. The difference between the FEA group and the EU group on subtest I of this test was also significant.

The general pattern that emerges from this study is that the three non-francophone groups (ACC, PAC and INT) represent three different levels of French proficiency. The division between these levels is however more pronounced between the ACC group and the PAC group than between the latter and the INT group.

The study also indicates that the INT group, which is the most proficient of the three groups, has not yet achieved native-like proficiency, even in the receptive skills (listening comprehension and reading comprehension). A closer examination of the subtest results reveals that the easier parts of the test de compréhension auditive and the test de lecture (subtest I in each case) were the only areas in which the performance of the INT group equalled that of the FR group. In contrast, these subtests were still too difficult for the ACC group to erase any between-group differences.

The performance of the PAC group in relation to the INT group is less clear-cut. In listening comprehension, the performance of the PAC group is clearly inferior to that of the INT group, even when the test is relatively easy (subtest I). In reading comprehension, the PAC students also tend to be weaker than the INT students. However, this difference is statistically not significant. Moreover, in both oral and written production, there are no significant differences between the PAC and INT groups. Thus, it would seem that the productive skills of the PAC students are more developed than their receptive skills. On the other hand, it may be the case, that the development of the productive skills of the INT students has not kept up with the development of their receptive skills. In other words, the development of the productive skills of these students may have slowed down after a certain level of funtional use of the language was reached. This pattern is similar to the one noted in school settings where a language other than the mother tongue is used as the medium of instruction and has been well documented in the Canadian immersion programs (see, for instance, Adiv, Note 8; Harley and Swain 1977; Spilka 1976).

Another interesting finding that emerges from this study is that the PAC group's performance in mathematics surpassed that of the INT group. Moreover, both groups performed here within the average range of native French speakers at the same grade level. Thus, in terms of academic achievement, these students do not lag behind their francophone peers.

With respect to the influence of the mother tongue, the most interesting finding is that whereas there were no differences among the EU, SE and FEA groups within the ACC group, some such differences did

emerge within the PAC group. However, all of these differences pertain to oral production. The first conclusion to be drawn from this finding is that differences between the French alphabet and that of the students' mother tongue does not seem to influence the development of reading and writing skills. On the other hand, why would oral proficiency be influenced and why would such differences only emerge at a later stage? Several explanations are possible. These interpretations must, however, be accepted cautiously since the study used a cross-sectional approach and not a longitudinal one. Thus, some of the differences noted here may be attributable to between-group differences which are not related to language development. Nevertheless, it is striking that all the between-group differences which were noted within the PAC group relate to the FEA group's performance. The comparison of the ratings on the test d'expression orale within the ACC group reveals that the ratings of the three groups ranged from 2.12 to 2.76. On the other hand, within the PAC group, the ratings of the EU and SE groups ranged from 3.38 to 3.86, whereas the ratings of the FEA group still ranged from 2.44 to 2.81. These figures suggest that the oral production skills of students whose mother tongue is either a European or a Semitic language develop more rapidly than those of students who are of Far Eastern origin. Two factors may contribute to this pattern. The first is related to differences between the structure of French and that of a Far Eastern language. The second factor is related to specific character traits of students of Far Eastern origin. These students are often very shy and reluctant to speak out. In consequence, they may not utilize the available opportunities to practice their oral French.

The deficits incurred by insufficient practice may not be evident during early stages of second language development, i.e. in the accueil classes, since here everybody's French is still very elementary. In a similar vein, mother tongue interference may not play a major role here, since utterances are limited to very short basic patterns. Research into second language acquisition has, in fact, shown that mother tongue interference is most likely to occur when the learner has already a certain amount of knowledge about the language he or she is learning (Kellerman, 1979; Zobl, 1980).

In conclusion, the findings of this study are very similar to those noted for the non-francophone students in elementary schools (Adiv Note 5, Adiv and Doré Notes 6 and 7) i.e., students who follow an accueil/post accueil program rapidly develop a functional level of French which allows them to perform at grade level in terms of academic achievement. However, their proficiency in French language skills remains below average even in the integrated classes. Thus, there is little evidence to support the hypothesis that the development of French language skills in the accueil/post accueil classes may be more rapid when the learners are older and cognitively more mature.

For those involved in the planning of the curriculum of the three-year accueil, post-accueil and integration classes, the most important finding of this study may be the one related to the performance of the INT group. The fact that the differences between this group and the PAC group were often insignificant suggests that the one daily period of extra French the INT students receive may be insufficient to promote substantial increases in French language proficiency. On the other hand, it must be

remembered that only about half of the INI students had attended the special post-accueil class offered in the three-year program. Thus, it may be advisable to have more students attend this particular type of post-accueil class before inserting them into the regular French classroom.

Finally, the findings of the study suggest that teachers in post-accueil classes should pay special attention to the development of oral production skills among students from Far Eastern countries.

It will be of interest to follow the linguistic development of the students evaluated in this study throughout their high school years in order to see at what point their performance will become comparable to that of native speakers both in the receptive and in the productive skills.

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Table 1A

Sample Sizes According to Program

Accueil group (ACC)	50
Post-Accueil group (PAC)	52
Integration group (INT)	20
Sec. I francophone group (FR_1)	43
Sec. II francophone group (FR_2)	41

Table 1B

Sample Sizes for Oral Production Test

Accueil group (ACC)	30
Post-Accueil group (PAC)	21
Integration group (INT)	16
Sec. I francophone group (FR_1)	29
Sec. II francophone group (FR_2)	28

Table 2

Summary of French Test Results According to Program[a]

	ACC	PAC	INT	FR	F ratio	df
Test de comp. auditive						
- Total (22)[b]	8.53	11.26	15.82	18.85	115.90***	3,191
- Subtest I (8)	3.95	5.33	6.78	7.27	50.92***	3,191
- Subtest II (14)	4.58	5.92	9.04	11.58	110.07***	3,191
Test de lecture						
- Total (24)	9.58	15.30	16.71	19.95	63.04***	3,195
- Subtest I (8)	3.09	4.55	4.78	5.10	39.60***	3,195
- Subtest II (12)	4.57	6.82	8.05	9.81	48.19***	3,195
- Subtest III (6)	1.93	3.89	3.88	5.03	33.16***	3,195

*** $p < .001$

[a]Means joined by a solid line differ significantly from one another
Means joined by a broken line do not differ significantly from one another

[b]Maximum scores in parentheses

Table 2 (cont'd)

Summary of French Test Results According to Program

	ACC	PAC	INT	FR	F ratio	df
Test d'expression orale						
- Pronunciation (5)	2.66	3.24	3.25	4.95	136.97***	3,119
- Grammar (5)	2.68	3.18	3.39	4.29	49.48***	3,119
- Vocabulary (5)	2.65	3.34	3.31	4.05	26.69***	3,119
- Communication I (5)	2.47	3.37	3.60	4.43	44.26***	3,119
- Communication II (15)	2.44	3.48	3.64	4.43	42.63***	3,119
Test de production écrite						
- Content (5)	N.A.	2.79	3.18	3.95	28.24***	2,97
- Vocabulary (5)	N.A.	2.83	2.95	3.98	16.03***	2,97
- Grammar (5)	N.A.	2.76	2.55	3.65	25.82***	2,97
- Spelling (5)	N.A.	3.19	2.96	3.64	7.12**	2,97
- Punctuation (5)	N.A.	3.47	3.60	3.68	0.48	2,97
Test de rendement en français (40)	N.A.	15.95	18.58	N.A.	1.99	1,61

** $p < .01$
*** $p < .001$

N.A. not administered

Table 3

Summary of the Mathematics Test Results According to Program[a]

	ACC	PAC	INT	FR	F ratio	df
Test de rendement en mathématiques						
- Total (35)[b]	N.A.	19.85	16.42	N.A.	4.08*	1,63
- Subtest I (9)	N.A.	5.26	3.87	N.A.	5.63*	1,63
- Subtest II (26)	N.A.	14.58	12.55	N.A.	2.67	1,63

* $p < .05$

N.A. not administered

[a]Means scores joined by a solid line do not differ significantly from one another.

Table 4A

Sample Sizes According to Mother Tongue within the ACC Group

European language (EU group)	29
Semitic language (SE group)	11
Far Eastern language (FEA group)	10

Table 4B

Sample Sizes According to Mother Tongue within the PAC Group

European language (EU group)	15
Semitic language (SE group)	14
Far Eastern language (FEA group)	23

Table 5

Summary of French Test Results According to Mother Tongue within the ACC Group

	EU	SE	FEA	F ratio	df
Test de comp. auditive					
- Total (22)[a]	8.45	9.26	6.22	1.14	2,37
- Subtest I (8)	3.95	4.83	2.58	2.46	2,37
- Subtest II (14)	4.50	4.43	3.64	0.33	2,37
Test de lecture					
- Total (24)	9.17	8.67	9.80	0.09	2,43
- Subtest I (8)	2.76	3.38	3.38	1.18	2,43
- Subtest II (14)	4.51	3.68	4.68	0.29	2,43
- Subtest III (6)	1.90	1.61	1.74	0.08	2,43
Test d'expression orale					
- Pronunciation (5)	2.56	2.90	2.12	0.88	2,24
- Grammar (5)	2.49	2.76	2.38	0.24	2,24
- Vocabulary (5)	2.47	2.69	2.65	0.13	2,24
- Communication I (5)	2.39	2.33	2.39	0.01	2,24
- Communication II (5)	2.26	2.70	2.31	0.32	2,24

[a]Maximum scores in parentheses

Table 6

Summary of French Test Results According to Mother Tongue within the PAC Group[a]

	EU	SE	FEA	F ratio	df
Test de comp. auditive					
- Total (22)[b]	11.69	12.29	9.67	2.90	2,49
- Subtest I (8)	5.44	6.00	4.75	2.54	2,49
- Subtest II (14)	6.25	6.29	4.92	1.99	2,49
Test de lecture					
- Total (24)	15.38	15.93	13.92	0.88	2,49
- Subtest I (8)	4.62	4.57	4.33	0.29	2,49
- Subtest II (14)	6.88	7.79	5.75	2.91	2,49
- Subtest III (6)	3.88	3.43	3.83	0.25	2,49
Test d'expression orale					
- Pronunciation (5)	3.38	3.57	2.75	7.87**	2,20
- Grammar (5)	3.38	3.64	2.44	20.87***	2,20
- Vocabulary (5)	3.62	3.86	2.44	22.68***	2,20
- Communication I (5)	3.81	3.71	2.62	10.90***	2,20
- Communication II (5)	3.69	3.86	2.81	6.23**	2,20

Table 6 (cont'd)

Summary of French Test Results According to Mother Tongue within the PAC Group

	EU	SE	FEA	F ratio	df
Test de production écrite					
- Content (5)	2.83	2.90	2.62	1.00	2,48
- Vocabulary (5)	2.83	2.93	2.74	0.67	2,48
- Grammar (5)	2.70	2.83	2.64	0.41	2,48
- Spelling (5)	3.20	2.87	3.26	1.82	2,48
- Punctuation (5)	3.80	2.73	3.55	6.86	2,48
Test de rendement en français (40)	18.73	15.08	14.05	1.84	2,46

** $p < .01$

*** $p < .001$

[a]Mean scores joined by a broken line do not differ significantly from one another

[b]Maximum scores in parentheses

Table 7

Summary of the Mathematics Test Results According to Mother Tongue within the PAC Group[a]

	EU	SE	FEA	F ratio	df
Test de rendement en mathématiques[b]					
- Total (35)	19.87	15.00	22.22	5.45**	2,49
- Subtest I (9)	5.33	3.31	6.22	9.90***	2,49
- Subtest II (26)	14.53	11.62	16.00	3.49*	2,49

* $p < .05$

** $p < .01$

*** $p < .001$

[a] Mean scores joined by a solid line differ significantly from one another

[b] Maximum scores in parentheses

Appendix II

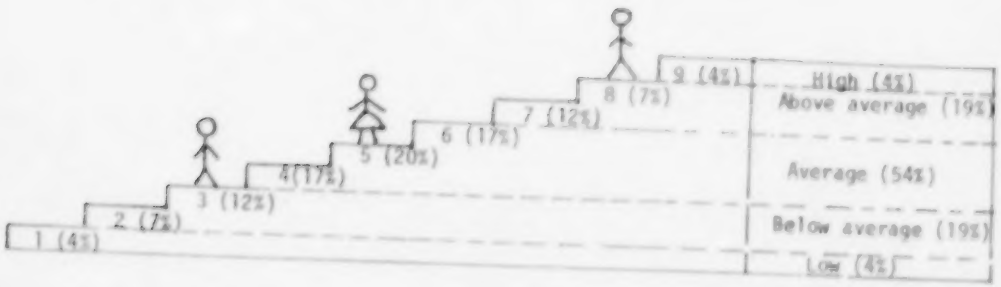
Interpretation of Stanine Scores

Stanine

The stanine scale is a simple nine-point scale of standard scores. (The word stanine was derived from STAndard NINE-Point scale). In this scale, raw scores are converted to scores which range from 1 (low) to 9 (high) with a mean of 5 and a standard deviation of 2.

Figure I. Percentage of Cases at Each Stanine Level.

Meaning of Stanines
STA: Standard Score: NINE: Nine Step Scale



Appendix I

Explanation of Analysis of Covariance

Analysis of covariance is a statistical procedure which is similar to the analysis of variance in that it is used to compare the results of two or more groups on a particular test. At the same time, analysis of covariance mathematically reduces the influence that another variable, such as I.Q., might have on the test results. For example, if two hypothetical language groups under investigation differ a priori in terms of I.Q., and if it is believed that I.Q., will significantly influence performance on the test being administered (e.g., a reading test), then an analysis of covariance will estimate the significance of the language factor. This mathematical procedure is used when it is difficult or impossible to select groups which are equivalent in I.Q.